NATURAL RESOURCE CONSERVATION SERVICE
CONSTRUCTION SPECIFICATIONS

BRUSH MANAGEMENT

1. Needs and Priorities

The kind and density of brush species present and the land use objectives govern the decisions of which type of brush management to use. **Density** is defined in this specification as the percent of crown canopy of the target species. **Crown canopy** is the vertical projection downward of the aerial portion of shrubs and trees. Crown canopy can be determined by measuring the percent of ground that is shaded at mid-day.

Use Table 1 to determine when brush management is needed on areas where forage production is the primary objective. Forage production is significantly reduced when the percentages of brush shown occur on grasslands.

"**High Priority**" indicates that the target species is of sufficient canopy coverage to seriously suppress the production of herbaceous vegetation. Failure to implement brush management control practices in a timely manner could result in the ecological site passing through a transition threshold. Some ecological sites may require reclamation efforts to correct.

"**Medium Priority**" indicates the target species is of sufficient canopy coverage to significantly suppress the production of herbaceous vegetation or potentially provides a seed source from species capable of serious infestations.

Maintenance densities are generally below medium priority densities.

2. General

See Table I for species and methods of control approved for Kansas.

3. Mechanical Treatment

Mechanical operations should be timed so as to prevent exposure of bare soil for undue periods of time to reduce wind and water erosion.

All visible stumps and frills of sprouting brush species will be treated per label directions with a cut-stump herbicide application immediately after the stump is severed by any mechanical treatment listed below.

Cut-stump treatment (by sawing, clipping, or shearing). Severing of the trunk below the lowest growth point and removing all green growth. This is the most preferred method of mechanical brush control.

Mowing is not considered a cut-stump treatment method for this standard. Mowing creates numerous cut ends that are impractical to apply herbicide to directly and removes the foliar growth making broadcast herbicide application ineffective.

Bulldozing. Bulldozing should not be recommended for species that will sprout from roots severed below ground such as honey locust and hedge making cut-stump herbicide applications following the bulldozing impractical.

Bulldozing should be done in such a manner as to not disturb the soil surface by scraping with the blade. This may be accomplished by hitting the trunk of the plant above the ground line to break it over and out of the ground. Next, back the tractor and come forward with the blade against the bottom of the root system to push the plant free of the soil uprooting the plant below the bud zone.

4. Chemical Treatment

Reference the latest edition of *Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland* and *MF-1021 Rangeland Brush Management* provided by Kansas State University, Agricultural Experiment Station, and Cooperative Extension Service for selected species and recommended methods, herbicide(s), rates, and application time(s).

Follow all label directions and heed all precautions on the herbicide container label.

Follow all USDA pesticide registrations and policies.

Follow all state and county herbicide and pesticide regulations.

To reduce the possibility of pollution and to increase the effectiveness of the herbicide, chemical control methods should not be used during periods of unstable weather where there is a possibility of rain within 24 hours after application of the chemical.

5. Biological Treatment

Biological agents. Biological agents are not approved at this time.

6. Prescribed Burning

Species controlled by prescribed burning are generally more effectively and economically controlled prior to reaching the medium priority level (Refer to table 1) and a height of five feet.

Successive annual prescribed burn treatments may be necessary to maintain desired control.

In areas of dense woody growth it may be necessary to use herbicides to defoliate brush one year prior to burning to promote enough fuel for effective burning. In such cases, grazing management should be adjusted to allow adequate residual fuel accumulations and carry over.

Piling of brush prior to burning is usually not cost effective and may result in bare areas after piles are burned. The ash and heat associated with burning these brush piles results in soil attributes undesirable for rapid establishment of herbaceous vegetation. These areas are often initially invaded by smooth sumac.

Table I [1/]

Species	High Priority	Medium Priority	Mechanical	Burning	Herbicides
Blackberry	15%	5-15%	--	M-A	F-R
Blackjack oak	50%	25-50%	CU	CN-A	F,S,B
Buckbrush (coralberry)	20%	5-20%	M-R	CN-A	F-R,S
Eastern persimmon	15%	5-15%	CU	--	F-R
Eastern red cedar	15%	5-15%	C	CN	S
Honey locust	15%	5-15%	CU	R,A	F,S,B
Indigo bush	15%	5-15%	--	M-A	--
Multiflora rose	15%	5-15%	--	M-A	F,S
Osage orange (hedge)	15%	5-15%	CU	R-A	F,S,B
Post oak	50%	25-50%	CU	CN-A	F,S,B
Prickleypear cactus	20%	10-20%	--	R-A	F
Rough-leaved dogwood	15%	5-15%	--	M-A	S,F-R
Russian olive	15%	1-15%	CU	R-A	S,F-R,B
Sand plum	20%	10-20%	--	R,CN-A	F,S
Sand sagebrush (sandhill sage)	40%	20-40%	--	R	F
Elm, Siberian	15%	5-15%	CU	R	F,S,B
Smooth sumac	30%	10-30%	--	IP	F,S
Tamarisk (salt cedar)	15%	5-15%	--	--	--
Yucca (small soapweed)	20%	10-20%	--	--	S

[1/] Adapted from *Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland*, Kansas State University.

LEGEND

Mechanical

CU = Cut and treat cut surface
M = Mow
C = Cut below green growth
-R = Repeat treatments needed
-- = No recommendation

Burning

-A = With 2 or more yearly treatments
CN = Controls
IP = Increases population
M = Maintains population
R = Reduces population
-- = No recommendation

Herbicides

-R = Repeat treatments needed
F = Foliar treatment
B = Basal bark treatment
S = Soil treatment
-- = No recommendation